



OFFSHORE PETROLEUM DISCHARGE SYSTEM (OPDS)



**“Excuses for failure
attributed to shortness of
fuel will be closely
scrutinized; and justly.”**

Mahan

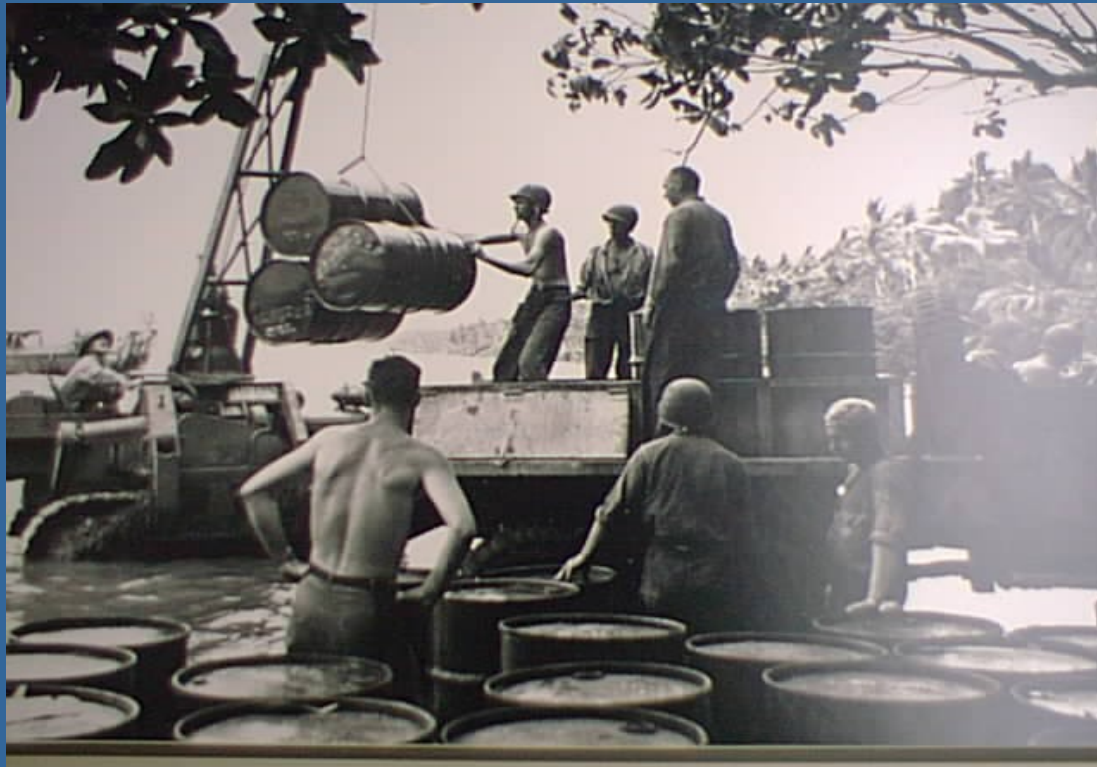
Naval Strategy, 1911

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In The Beginning...

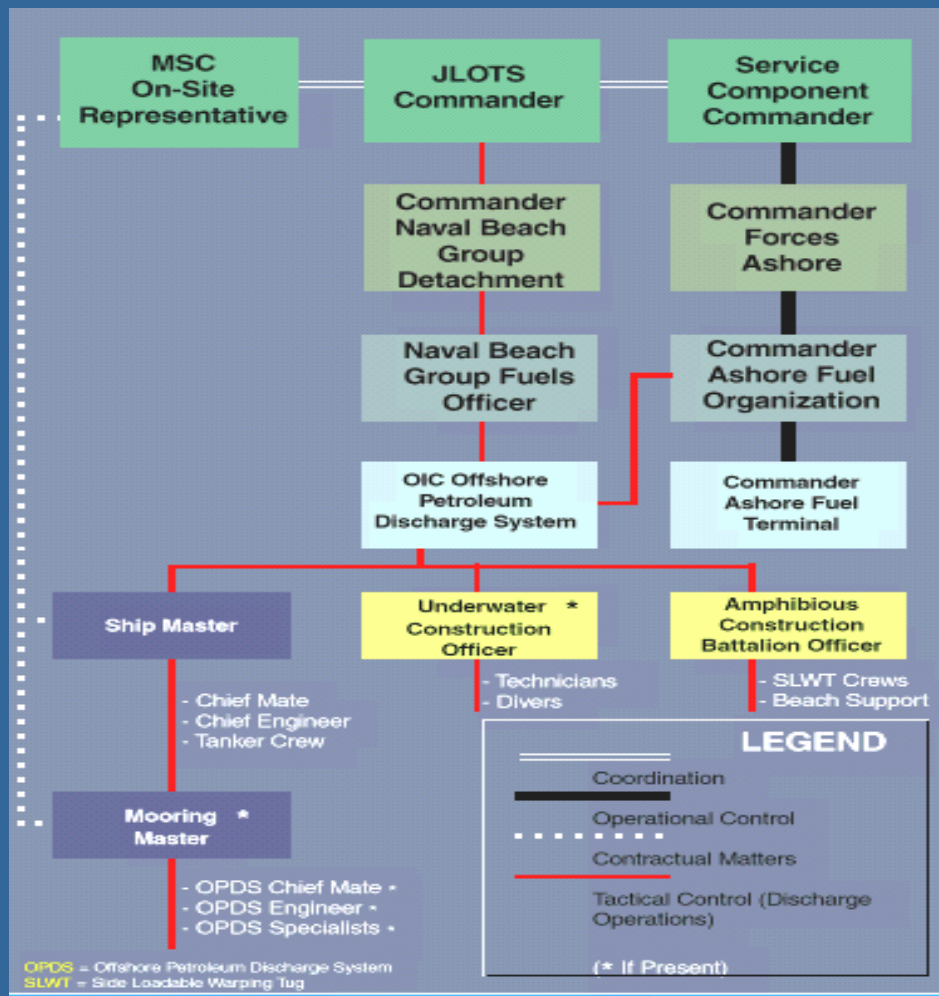


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Joint Logistics Over-the-Shore (JLOTS) Bulk Fuel Operations

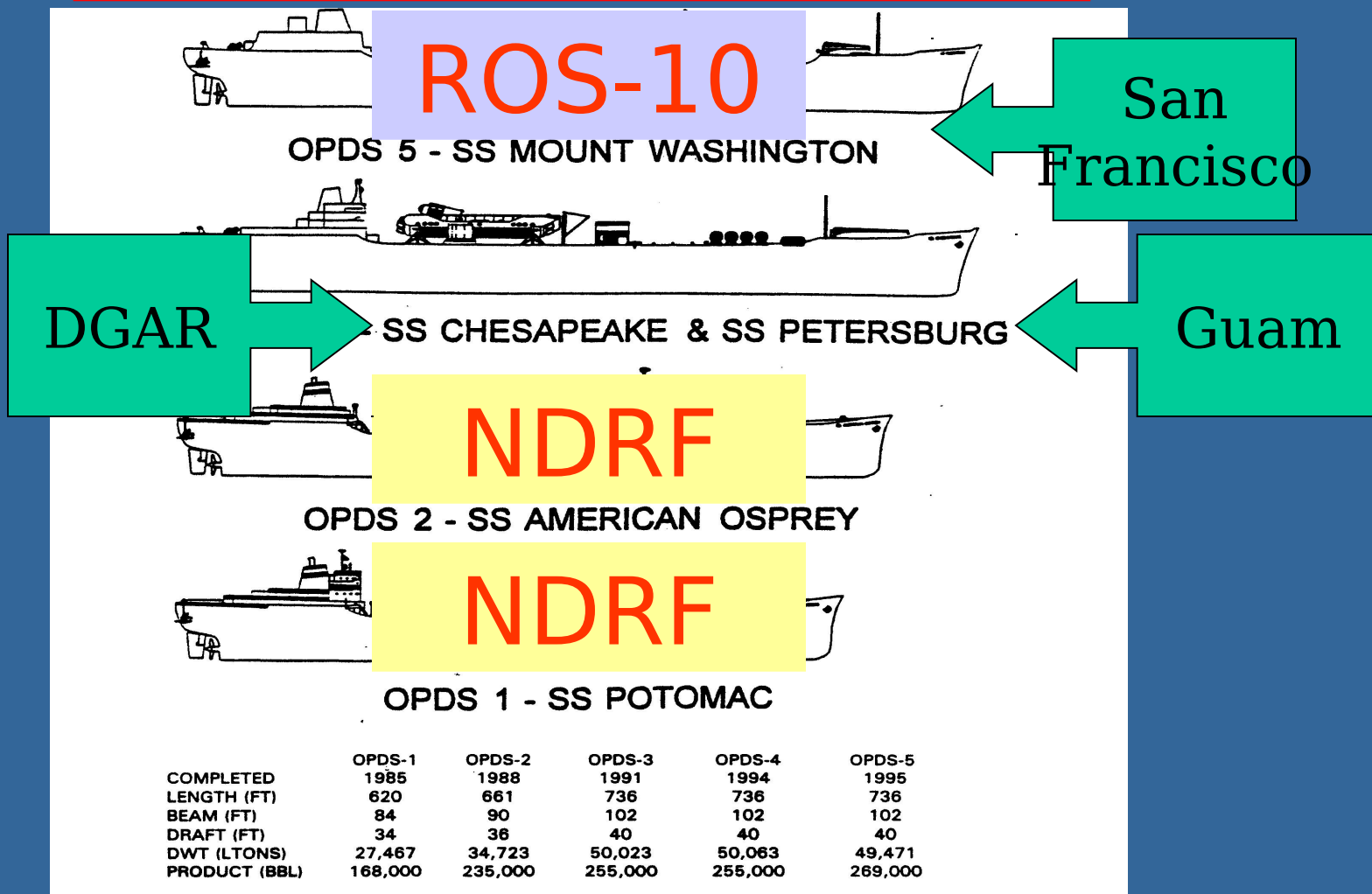


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OPDS Vessels



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OPDS Vessels

**SS Mount
Washington**



SS Chesapeake



SS Petersburg

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OPDS Basics

- **Single Product 4 NM**
- **Dual Product 2 NM**
- **1.2 Million gal/day**
- **Water Depth 35-200**
- **Service Life >2 yrs**

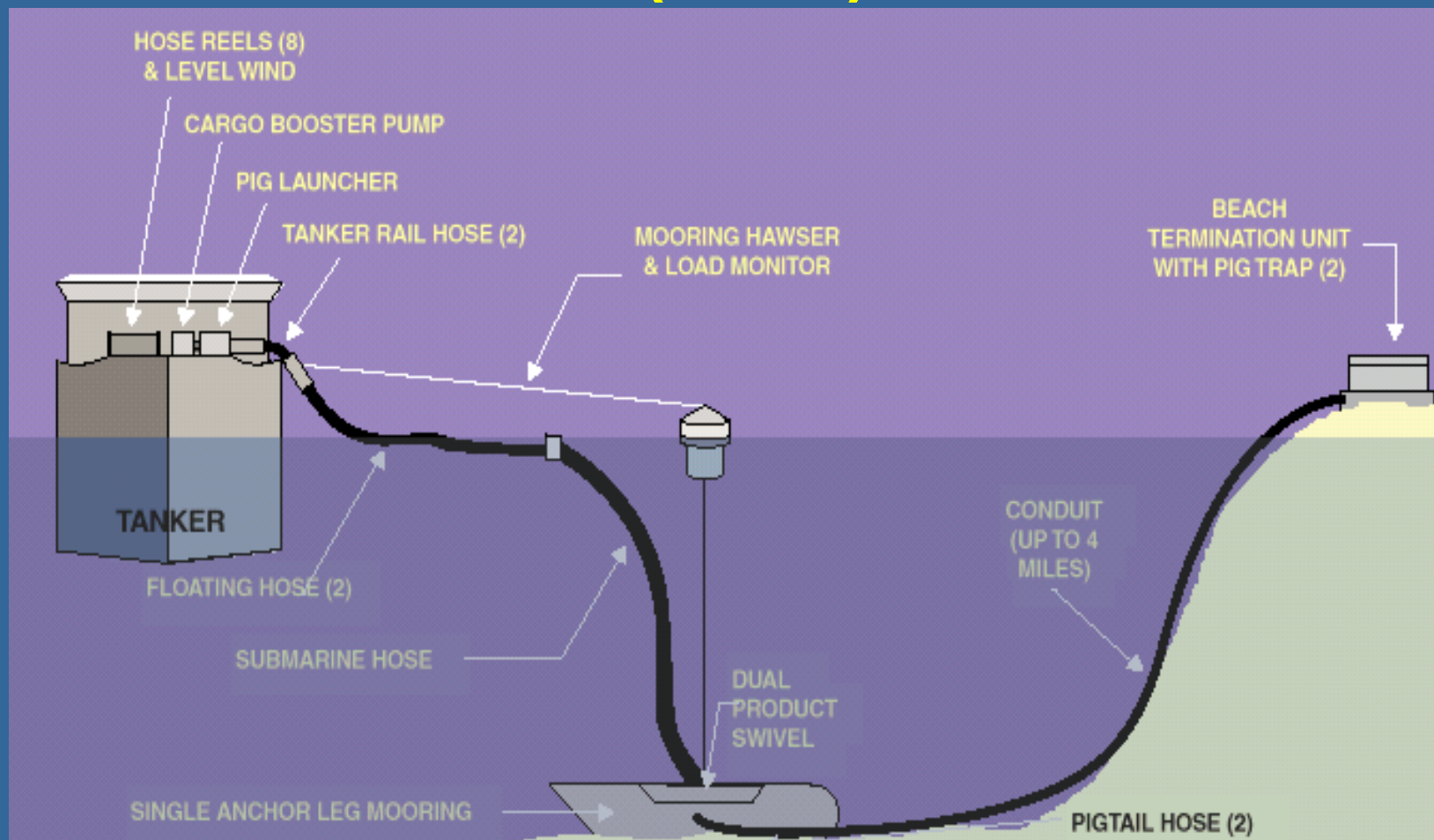


SS Chesapeake in TURBO PATRIOT 2000



Offshore Petroleum Distribution System

(OPDS)



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Single Anchor Leg Moor (SALM)

- Submersible Barge used as a mooring and fuel node.
- Inserted via SALM Launch and Recovery (SLAR) system during heeling evolution.
- 730 Short Tons (Dry)



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Overall Length
(Including Fenders)
149', 10.75"

Overall Width
(Including Fenders)
57', 1.125"

Stern Tug Bumper



Stern Fender System

**Auxiliary Mooring
Bouy**

(6.75'x15', 6.5 ST)

Main Mooring Bouy

(14.5'x30', 55 ST)



Dual Product Submarine Hose

**Submarine Hose
(Attached to 'Product
Swivel')**





SALM Launch



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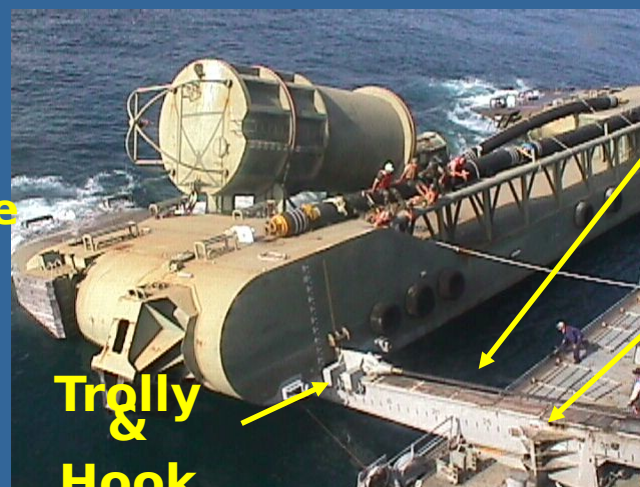
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SALM Launch and Recovery (SLAR) System



- Skid Beam - Fixed, 60.75' long.
- Hinged Beam - Extensions, 26-30' long
- Hinge Block - Join two beams, require special bolts and hand torquing
- Cable-Puller Mounting Assembly (Trolley & Hook Attached), used to launch SALM at a rate of approximately 1 foot per minute, with vessel heeled to 12 degrees.



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OPDS Utility Boat (OUB)

- **Modified 56-foot LCM-6**
- **5 Per OPDS Vessel, Loaded on Foredeck**
 - 2 Tow Tug Configuration
 - 2 Lay/Repair Boat Configuration
 - 1 Dive Boat Configuration
- **OUBs eliminate the need for 4 Side Loadable Warping Tugs (SLWT) and 1 Diving Platform (All previously loaded aboard a Port Opening Package).**



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FOAL EAGLE 98



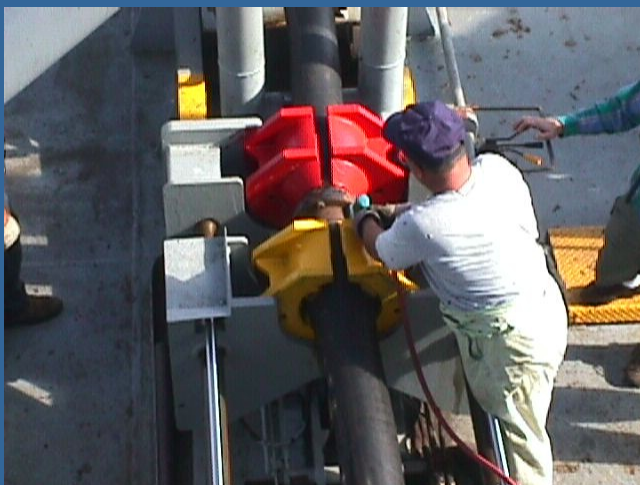
**OUB
(Dive Boat Configuration)**

**Main Mooring
Buoy**



Conduit Systems

- OPDS Conduit Systems consist of float-sink conduit, pigtail hoses, floating hoses, tanker rail hoses, conduit flooding buoy, storage reels and deployment equipment.
- Conduit has a 6' inner and 8' outer diam.
- When capped and filled with air, they are positively buoyant, when filled with water or fuel, they are negatively buoyant.
- 4 mi stored on each vessel on 8 reels, each reel holding three, 1,014 foot sections.



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**FOAL EAGLE
98**

**OPDS Conduit Reel
(8 reels at 1/2
mi/reel)**





Beach Termination Unit (BTU)

- 10'x6'x5' Metal enclosure which anchors the conduit and ends the OPDS system.
- Joins OPDS vessel to USMC and /or US Army inland system(s).
- Floated ashore via OUBs and secured to beach via boat anchor.
- Adjustable regulatory valve factory set at 125 psi, but varied to meet requirements.
- Each OPDS vessel carries 2 BTUs.



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**Beach Termination
Unit
(BTU)**

